

WHAT IS CLAIMED IS:

1. An image forming system comprising a first image forming apparatus and a second image forming apparatus that are connected to each other via a communication line, wherein
- 5 the first image forming apparatus includes
- an image reading unit that reads image data from a document,
- and
- the second image forming apparatus includes
- an image storing unit that stores image data; and
- 10 a reading controller that controls the image reading unit to read the image data, and controls the image storing unit to store the image data.
2. The image forming system according to claim 1, wherein
- the first image forming apparatus further includes an automatic
- 15 document feeder that feeds a plurality of documents to the image reading unit one by one, and
- the reading controller controls an operation of the automatic document feeder.
- 20 3. The image forming system according to claim 1, wherein
- the second image forming apparatus further includes
- a first image forming controller that reads the image data from the image storing unit, transmits the image data to the first image forming apparatus, and controls the first image forming apparatus to form an image
- 25 based on the image data; and

a second image forming controller that reads the image data from the image storing unit, transmits the image data to the second image forming apparatus, and controls the second image forming apparatus to form an image based on the image data.

5

4. The image forming system according to claim 3, wherein the first image forming apparatus further includes

a first data expansion unit that expands compressed image data,

10 the second image forming apparatus further includes

a data compression unit that compresses image data; and

a second data expansion unit that expand compressed image data,

the reading controller controls the data compression unit to compress the image data acquired from the first image forming apparatus before storing the image data in the image storing unit, and

the first image forming controller and the second image forming controller include a first expansion controller and second expansion controller that controls the first data expansion unit and the second data expansion unit to expand the compressed image data, respectively.

5. The image forming system according to claim 4, wherein the first expansion controller controls the first data expansion unit to expand the compressed image data transferred from the second image forming apparatus to the first image forming apparatus.

25

6. The image forming apparatus according to claim 1, wherein the communication line is based on a communication interface conforming the Institute of Electrical and Electronic Engineers 1394 standard.
- 5 7. The image forming apparatus according to claim 1, wherein the image storing unit is a hard disk drive.
8. An image forming system comprising a first image forming apparatus and a second image forming apparatus that are connected to each other via a communication line, wherein
- 10 the first image forming apparatus includes
- a first image reading unit that reads image data from a document, and
- the second image forming apparatus includes
- 15 a second image reading unit that reads image data from a document;
- a image storing unit that stores the image data; and
- a parallel reading controller that performs in parallel
- a control of making the second image reading unit read
- 20 image data from a document that is set on the second image reading unit and making the image storing unit store the image data, and
- a control of making the first image reading unit read image data from a document that is set on the first image reading unit, transferring the image data to the second image forming apparatus, and
- 25 making the image storing unit store the image data.

9. The image forming system according to claim 8, wherein
the first image forming apparatus further includes a first automatic
document feeder that automatically feeds a plurality of documents to the first
image reading unit one by one,

5 the second image forming apparatus further includes a second
automatic document feeder that automatically feeds a plurality of documents to
the second image reading unit one by one, and

the parallel reading controller controls operations of the first automatic
document feeder and the second automatic document feeder in parallel.

10

10. The image forming system according to claim 8, wherein
the second image forming apparatus further includes a parallel image
forming controller that performs in parallel

a control of reading image data stored in the second image
15 storing unit, and making the second image forming apparatus form an image
based on the image data, and

a control of reading image data stored in the second image
storing unit, transferring the image data to the first image forming apparatus,
and making the first image forming apparatus form an image based on the
20 image data.

11. The image forming system according to claim 10, wherein
the first image forming apparatus further includes

a data expansion unit that expands compressed image data;
25 the second image forming apparatus further includes

a data compression unit that compresses image data;
the parallel reading controller controls the data compression unit to
compress the image data, and
the parallel image forming controller includes an expansion controller
5 that controls the data expansion unit to expand the image data.

12. The image forming system according to claim 11, wherein
the second image forming apparatus further includes a second
expansion unit that expands compressed image data, and
10 the expansion controller controls the second expansion unit to expand
compressed image data to be formed into an image at the second image
forming apparatus, and controls the first expansion unit to expand compressed
image data transferred to the first image forming apparatus.

15 13. The image forming system according to claim 8, wherein the parallel
reading controller includes a storing unit that stores image data in an arbitrary
memory area of the second image storing unit.

14. The image forming system according to claim 8, wherein the parallel
20 reading controller includes a storing unit that stores image data in a
pre-secured memory area of the second image storing unit.

15. The image forming system according to claim 14, wherein the parallel
reading controller further includes
25 an area securing unit that secures in advance a memory area in the

second image storing unit in which image data read by the second image reading unit and image data read by the first image reading unit are stored continuously;

5 a temporary storing unit that temporarily stores the image data read by the first image reading unit in the first image storing unit;

a storing unit that stores the image data read by the second image reading unit in the memory area secured by the area securing unit; and

10 a residual storing unit that makes the first image forming apparatus transfer image data stored in the first image storing unit when the first image reading unit and the second image reading unit complete reading all the images from the document, and stores the image data transferred in a remaining area of the second image storing unit.

16. The image forming system according to claim 8, wherein
15 the second image forming apparatus further comprises a mode setting unit that sets a memory management mode for managing the second image storing unit, and

the parallel reading controller further includes

20 a first memory controller that stores image data into an arbitrary memory area of the second image storing unit;

a second memory controller that stores image data into a pre-secured memory area of the second image storing unit; and

25 an area selection unit that checks a status of the memory management mode, selects the first memory controller if the memory management is not set, and selects the second memory controller if the

memory management is set.

17. The image forming apparatus according to claim 8, wherein the communication line is based on a communication interface conforming the
5 Institute of Electrical and Electronic Engineers 1394 standard.

18. The image forming apparatus according to claim 8, wherein the image storing unit is a hard disk drive.

10 19. A method of copying employed on a system including a plurality of image forming apparatuses connected to each other via a communication line, the method comprising:

setting one of the image forming apparatuses as a master image forming apparatus, and image forming apparatuses other than the master
15 image forming apparatus as slave image forming apparatuses;

making the master image forming apparatus acquire image data from the slave image forming apparatus; and

making the master image forming apparatus form an image based on the image data acquired from the slave image forming apparatus.

20

20. The method according to claim 19, wherein the slave image forming apparatus includes an automatic document feeder, and the method further comprising

making the master image forming apparatus control an operation of the
25 automatic document feeder of the slave image forming apparatus.

21. A method of copying employed on a system including a plurality of image forming apparatuses connected to each other via a communication line, the method comprising:

- setting one of the image forming apparatuses as a master image forming apparatus, and image forming apparatuses other than the master image forming apparatus as slave image forming apparatuses;
- making the master image forming apparatus acquire image data;
- making the master image forming apparatus transfer the image data to a desired one of the slave image forming apparatuses; and
- making the slave image forming apparatus to which the image data is transferred form an image based on the image data received from the master image forming apparatus.

22. The method according to claim 21, wherein the slave image forming apparatus includes an automatic document feeder, and the method further comprising

- making the master image forming apparatus control an operation of the automatic document feeder of the slave image forming apparatus.

23. A method of copying employed on a system including a plurality of image forming apparatuses connected to each other via a communication line, the method comprising:

- setting one of the image forming apparatuses as a master image forming apparatus, and image forming apparatuses other than the master image forming apparatus as slave image forming apparatuses;

making the master image forming apparatus acquire image data from the slave image forming apparatus;

making the master image forming apparatus store image data acquired by the master image forming apparatus and the image data acquired from the
5 slave image forming apparatus;

making the master image forming apparatus transfer a part of the image data stored to a desired one of the slave image forming apparatuses;
and

making the master image forming apparatus form an image based on
10 image data remaining in the image data and making and the slave image forming apparatus to which the part of the image data is transferred to form an image based on the part of the image data stored, in parallel.

24. The method according to claim 23, wherein the slave image forming
15 apparatus includes an automatic document feeder, and the method further comprising:

making the master image forming apparatus control an operation of the automatic document feeder of the slave image forming apparatus.

20 25. A computer program employed on a system including a plurality of image forming apparatuses connected to each other via a communication line, the computer program making a computer execute:

setting one of the image forming apparatuses as a master image forming apparatus, and image forming apparatuses other than the master
25 image forming apparatus as slave image forming apparatuses;

making the master image forming apparatus acquire image data from the slave image forming apparatus; and

making the master image forming apparatus form an image based on the image data acquired from the slave image forming apparatus.

5

26. The computer program according to claim 25, wherein the slave image forming apparatus includes an automatic document feeder, and the computer program further making a computer execute

making the master image forming apparatus control an operation of the automatic document feeder of the slave image forming apparatus.

10

27. A computer program employed on a system including a plurality of image forming apparatuses connected to each other via a communication line, the computer program making a computer execute:

15 setting one of the image forming apparatuses as a master image forming apparatus, and image forming apparatuses other than the master image forming apparatus as slave image forming apparatuses;

making the master image forming apparatus acquire image data;

making the master image forming apparatus transfer the image data to a desired one of the slave image forming apparatuses; and

20

making the slave image forming apparatus to which the image data is transferred form an image based on the image data received from the master image forming apparatus.

25

28. The computer program according to claim 27, wherein the slave image forming apparatus includes an automatic document feeder, and the computer program further making a computer execute

making the master image forming apparatus control an operation of the automatic document feeder of the slave image forming apparatus.

29. A computer program employed on a system including a plurality of image forming apparatuses connected to each other via a communication line, the computer program making the computer execute:

10 setting one of the image forming apparatuses as a master image forming apparatus, and image forming apparatuses other than the master image forming apparatus as slave image forming apparatuses;

making the master image forming apparatus acquire image data from the slave image forming apparatus;

15 making the master image forming apparatus store image data acquired by the master image forming apparatus and the image data acquired from the slave image forming apparatus;

making the master image forming apparatus transfer a part of the image data stored to a desired one of the slave image forming apparatuses;

20 and

making the master image forming apparatus form an image based on image data remaining in the image data and making and the slave image forming apparatus to which the part of the image data is transferred to form an image based on the part of the image data stored, in parallel.

25

30. The computer program according to claim 29, wherein the slave image forming apparatus includes an automatic document feeder, and the computer program further making a computer execute

making the master image forming apparatus control an operation of the automatic document feeder of the slave image forming apparatus.

31. A computer product containing a computer program employed on a system including a plurality of image forming apparatuses connected to each other via a communication line, the computer program making a computer

execute:

setting one of the image forming apparatuses as a master image forming apparatus, and image forming apparatuses other than the master image forming apparatus as slave image forming apparatuses;

making the master image forming apparatus acquire image data from the slave image forming apparatus; and

making the master image forming apparatus form an image based on the image data acquired from the slave image forming apparatus.

32. The computer product according to claim 31, wherein the slave image forming apparatus includes an automatic document feeder, and the computer program further making a computer execute

making the master image forming apparatus control an operation of the automatic document feeder of the slave image forming apparatus.

33. A computer product containing a computer program employed on a system including a plurality of image forming apparatuses connected to each other via a communication line, the computer program making a computer execute:

- 5 setting one of the image forming apparatuses as a master image forming apparatus, and image forming apparatuses other than the master image forming apparatus as slave image forming apparatuses;
 - making the master image forming apparatus acquire image data;
 - making the master image forming apparatus transfer the image data to
 - 10 a desired one of the slave image forming apparatuses; and
 - making the slave image forming apparatus to which the image data is transferred form an image based on the image data received from the master image forming apparatus.

- 15 34. The computer product according to claim 33, wherein the slave image forming apparatus includes an automatic document feeder, and the computer program further making a computer execute

- making the master image forming apparatus control an operation of the automatic document feeder of the slave image forming apparatus.

20

35. A computer product containing a computer program employed on a system including a plurality of image forming apparatuses connected to each other via a communication line, the computer program making the computer execute:

- 25 setting one of the image forming apparatuses as a master image

forming apparatus, and image forming apparatuses other than the master image forming apparatus as slave image forming apparatuses;

making the master image forming apparatus acquire image data from the slave image forming apparatus;

5 making the master image forming apparatus store image data acquired by the master image forming apparatus and the image data acquired from the slave image forming apparatus;

making the master image forming apparatus transfer a part of the image data stored to a desired one of the slave image forming apparatuses;

10 and

making the master image forming apparatus form an image based on image data remaining in the image data and making and the slave image forming apparatus to which the part of the image data is transferred to form an image based on the part of the image data stored, in parallel.

15

36. The computer product according to claim 35, wherein the slave image forming apparatus includes an automatic document feeder, and the program further making a computer execute

20 making the master image forming apparatus control an operation of the automatic document feeder of the slave image forming apparatus.

37. An image forming apparatus connected to another image forming apparatus via a communication line, the image forming apparatus comprising:

25 a data acquiring unit that acquires image data from the another image forming apparatus; and

an image forming unit that forms an image based on the image data acquired for the another image forming apparatus.